ROSE LAKE WATER ASSOCIATION (PWSNO 1280161)
SOURCE WATER ASSESSMENT REPORT

November 30, 2001

State of Idaho
Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment for Rose Lake Water Association*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Rose Lake Water Association drinking water comes from a well field comprised of Wells #1 and #3. Well #4 was put on line in 1999 and taken off again because of the high concentration of Iron and Manganese in the water. The wells draw water from a shallow alluvial aquifer. A spring that was formerly the main water supply was taken off line in 1996. Bacterial contamination in water samples tested in1997 and 1998 appears to be related to the distribution system rather that the aquifer.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully developed source water protection program will incorporate many strategies. For Rose Lake Water Association, source water protection activities should focus first on maintaining fenced areas immediately around the wells to keep wild life, livestock and any hazardous materials away from the wells. The Association has already begun to manage the land surrounding the Doyle Well Field by encouraging natural reforestation. Neighbors on adjacent property are also thinning seedlings etc. to promote healthy growth.

The next priority should be to work with private landowners and public agencies to regulate land use in zones contributing water to the wells but further from the wellhead. Public education and source water protection activities involving members of the community should be included in the program. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. Source water protection activities related to agriculture should be coordinated with the Idaho Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

For the spring watershed the Water Association needs to form partnerships with the State Department of Lands and the U.S. Forest Service to ensure that logging and road building activity will not degrade Rose Creek. For assistance in developing protection strategies, please contact your regional Idaho Department of

Environmental Quality office or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR ROSE LAKE WATER ASSOCIATION

Section 1. Introduction - Basis for Assessment

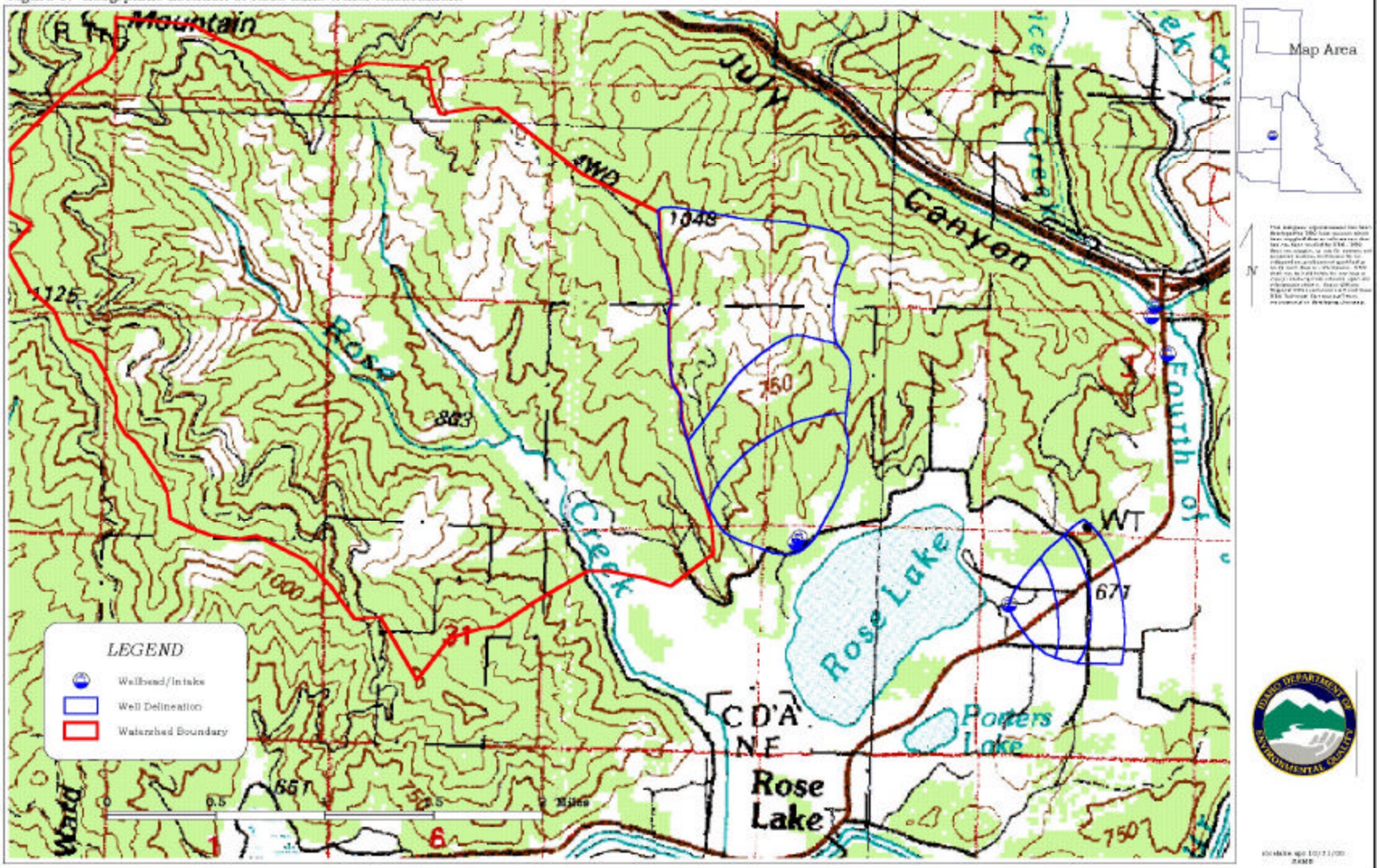
The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the ranking of this source means.** A map showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are included. The scoring sheets used to develop this assessment are also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the U.S. Environmental Protection Agency (EPA) to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments must be completed by May of 2003. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Wellhead or source water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Figure 1. Geogrpahic Location of Rose Lake Water Association.



Section 2. Conducting the Assessment

General Description of the Source Water Quality

Rose Lake Water Association serves a community of approximately 240 people, located in the rural residential area surrounding Rose Lake. (Figure 1). Public drinking water for Rose Lake Water Association is supplied from a well field comprised of Wells #1 and #3. Two other wells drilled by the Water Association are not being used. Well #2 was abandoned. Water from Well #4 has high concentrations of the inorganic chemicals Iron and Manganese. The Water Association also has a spring that was taken off line in December, 1996.

The primary water quality issue currently facing Rose Lake Water Association is that of Iron and Manganese contamination and the problems associated with managing this contamination. Water from Well #1 had a concentration of 0.31 mg/l of Fluoride; 1.3mg/l of Iron and 0.10 mg/l Manganese in a sample drawn in September, 1994. The chemicals were not present in subsequent samples. Results of comprehensive testing, for inorganic chemicals in Well #4 in November, 1997, and for Iron and Manganese in August, 2000 are summarized on Table 1.

Table 1. Inorganic Chemical Contaminants Detected in Well #4

Contaminant	MCL*	Amount Detected	Date
Arsenic	0.05 mg/l	0.015 mg/l	11/25/97
Fluoride	4.0 mg/l	0.400 mg/l	11/25/97
Iron	0.30 mg/l	3.06 mg/l	11/25/97
Manganese	0.05 mg/l	0.13 mg/l	11/25/97
Total Dissolved Solids	500 mg/l	113.0 mg/l	11/25/97
Iron		2.96 mg/l	8/2/00
Manganese		0.13 mg/l	8/2/00

*Maximum Contaminant Level

Bacteria were detected in the water in November 1996; May, June and November 1997 and again in July 1998. The problem appears to be isolated in distribution system. Radiological contaminants at concentrations below the Maximum Contaminant Level have been detected in the water since testing began in 1979.

Defining the Zones of Contribution - Delineation

The delineation process establishes the physical area around a well or spring that will become the focal point of the assessment. For wells, the process includes mapping the boundaries of the zone of contribution into time of travel zones indicating the number of years necessary for a particle of water to reach a well. DEQ used a refined computer model approved by the EPA in determining the three-year (Zone 1B), six-year (Zone 2), and ten-year (Zone 3) time-of-travel (TOT) for water associated with the unconfined alluvial aquifer in the vicinity of Rose Lake, Idaho. The computer model used site-specific data, including local well logs, assimilated by DEQ from a variety of sources. The source water assessment area for Rose Spring was delineated as a small watershed.

The 10-year time of travel zone for the Rose Lake Water Association well field stretches to the boundary of the small watershed directly north of the wells, since this is the recharge area for the shallow local aquifer. The entire delineated area for the well field covers about 705 acres. The delineation for Well #4 is a fan shaped area of about 157 acres opening eastward across the highway. The delineation for Rose Spring extends to the Rose Creek watershed topographic divide as depicted on a USGS 7.5-minute topographic map. The watershed for the spring covers about 4000 acres. The data used by DEQ in determining the source water assessment delineation areas are available upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

Rose Lake Water Association serves a rural residential community set in low lands around the lake and foothills near the lake. Land use is mixed forest and hayfields or pastureland. There are two commercial sites in the district. The well field is situated in pastureland adjacent to the county road. Well #4 is on a 20-acre parcel of undeveloped land leased from the Idaho Fish and Game Department. The spring is located in a meadow. About an acre around it is fenced to prevent livestock from grazing near the pond the spring feeds. The spring is subject to flooding.

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area conducted by DEQ involved identifying and documenting potential contaminant sources within the Rose Lake Water Association Source Water Assessment Area through the use of computer databases and Geographic Information System maps developed by DEQ. The Public Water System file for Rose Lake Water Association supplied additional information about land use in the vicinity of the wells and spring.

Pastureland in the area around the well field is only potential contaminant source located in the well field delineated area (Figure 2). There are five potential contaminant sites located in the delineated area for Well #4. In the delineated area for the spring there is a removed underground storage tank at a radio tower on Killarney Mountain, and grazing in the meadow near the near the spring (Figure 3). Table 2 lists the potential contaminants of concern, time of travel zones, and information source.

Figure 2. Rose Lake Water Association Well Delincations and Contaminant Inventory.

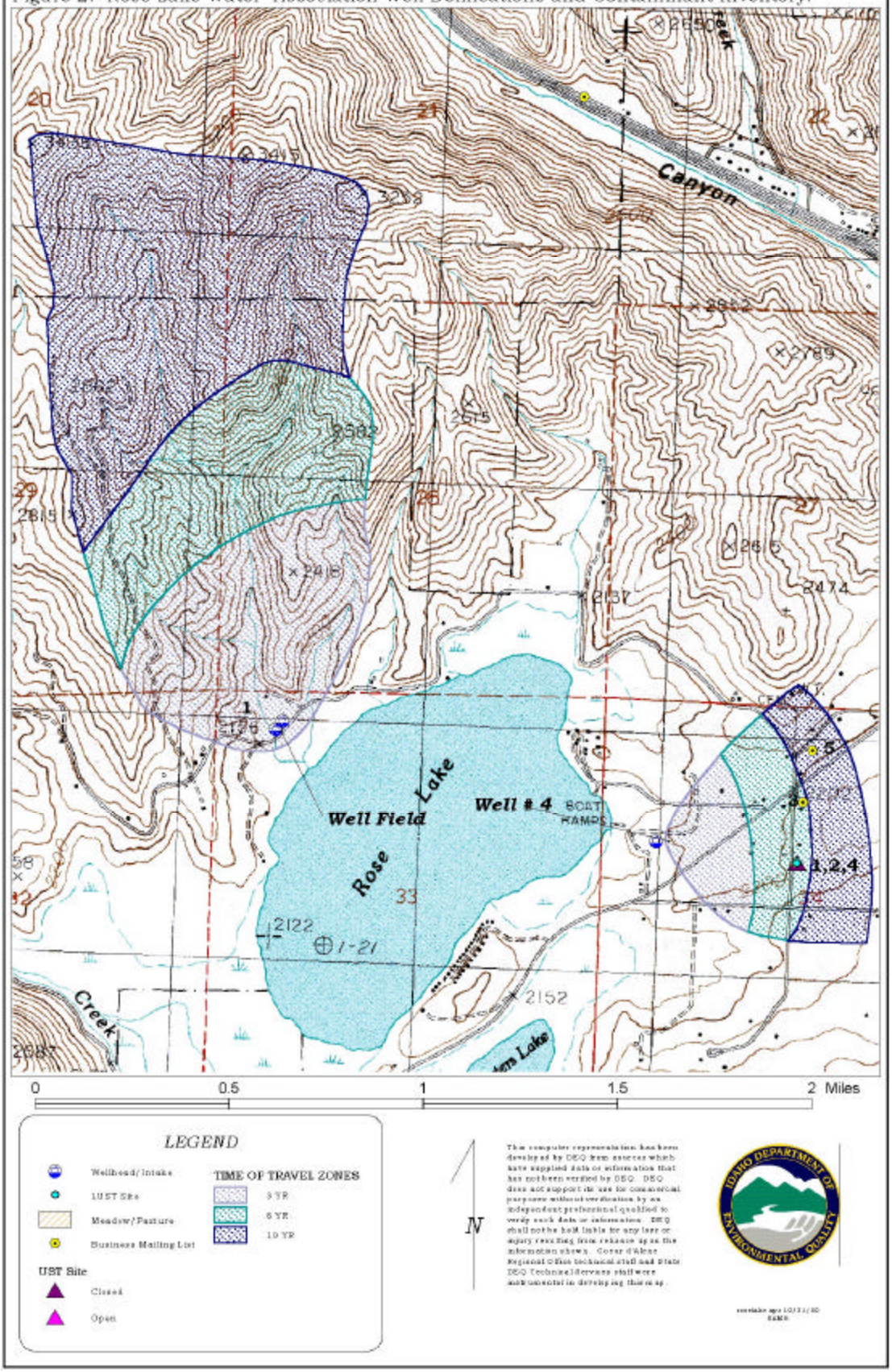


Figure 3. Rose Lake Water Association. Rose Spring Delineation and contaminant Inventory.

Table 2. Rose Lake Water Association Potential Contaminant Inventory

WELL FIELD MAP ID	DESCRIPTION	TOT ZONE:	POTENTIAL CONTAMINANT	SOURCE OF INFORMATION
1	PASTURE LAND	3 YR	MICROBIAL, SOC	PWS FILE
WELL #4 MAP ID	**DESCRIPTION**	**TOT ZONE:**	**POTENTIAL CONTAMINANT**	**SOURCE OF INFORMATION**
1	HIGHWAY DIST SHOP	6 YR	SOC, VOC	LUST DATABASE
2	HIGHWAY DIST	6 YR	SOC, VOC	UST DATABASE
3	WATER ASSN	6 YR		BUSINESS MAILING LIST
4	FIRE STATION	6 YR	SOC, VOC	BUSINESS MAILING LIST
5	LOGGING COMPANY	10 YR	SOC, VOC	BUSINESS MAILING LIST
SPRING MAP ID	**DESCRIPTION**	**TOT ZONE:**	**POTENTIAL CONTAMINANT**	**SOURCE OF INFORMATION**
1	CLOSED PETROLEUM STORAGE TANK	3 YR	SOC, VOC	UST DATABASE
2	MEADOW	3 YR	MICROBIAL, SOC	PWS FILE

UST = underground storage tank, LUST = leaking underground storage tank
TOT = time of travel (in years) for a potential contaminant to reach the wellhead
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 3. Susceptibility Analyses

The susceptibility of the sources to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. A high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

Hydrologic sensitivity is moderate for the Well Field and low for Well #4. Well #4 got a lower hydrologic sensitivity score because the clay/shale layers above water bearing formations at the well site, as documented on the well log, are more than 50 feet thick. This thick aquitard reduces the likelihood of surface contaminants infiltrating the aquifer.

Well Construction/Intake Construction

Well construction directly affects the ability of the wells to protect the aquifer from contaminants. Lower scores imply a system that can better protect the water. The Rose Lake Water Association Well Field scored in the moderate range and Well #4 had a low system construction score. Well 4 got a lower score because there is more than 100 feet between the static water level and water bearing formations documented on the well log.

The Well Field wells are 200 and 285 feet deep. Both are completed in a shale layer. Well #1 has a 6-inch casing, 0.25 inches thick, that extends 85 feet below ground surface. It has a bentonite seal extending from the surface to 30 feet below. Well #3 has a 6 in diameter 0.25 inch thick steel casing to a depth of 58 feet, and a PVC liner extending to 285 feet. It is sealed with bentonite to a depth of 50 feet. Well #3 is screened from 245 to 285 feet.

Well #4 is 420 feet deep. It is cased to a depth of 88 feet with 0.25 inch , 8-inch diameter steel and lined with 6 inch PVC to 420 feet. The surface seal is bentonite clay to a depth of 40 feet. It is screened from 360 to 420 feet.

The Idaho Department of Water Resources (IDWR) *Well Construction Standards Rules (1993)* require all public water systems to follow DEQ standards.. IDAPA 58.01.08.550 requires that public water systems follow the *Recommended Standards for Water Works (1997)* during construction. Various aspects of the standards can be assessed from well logs. Table 1 of the *Recommended Standards for Water Works (1997)* states that 6-inch steel casing requires a thickness of 0.28 inches, and 8-inch steel casing requires a thickness of 0.322 inches. The standards state that screen will be installed and have openings based on sieve analysis of the formation. Well #1 is not screened.

The intake construction score for the spring is high because water is drawn from the open pond fed by the spring. The area around the spring is fenced to protect it from cattle, but the pond is vulnerable to contamination from flooding, and from insects, birds and small animals.

Potential Contaminant Source and Land Use

Both the well field and Well #4 were automatically scored highly susceptible to inorganic chemical contamination because of high concentrations of iron and manganese detected in the water. Potential contaminant source/land use scores for all the wells are in the low range for SOCs, VOCs and microbials.

The spring was automatically ranked highly susceptible to microbial contamination. Scores were low for susceptibility to IOC, SOC and VOC contaminants.

Final Susceptibility Ranking

Final susceptibility scores take system construction, hydrologic sensitivity and potential contaminant/land use factors into consideration. Attachment A, beginning on page 16 of this report, shows the formulas used to derive the final susceptibility scores and detailed scoring sheets for each of the three Rose Lake Water

Association sources. The susceptibility analysis for all Rose Lake Water Association sources is summarized in Table 3.

Table 3. Summary of Rose Lake Water Association Susceptibility Evaluation

Susceptibility Scores										
System Construction	Hydrologic Sensitivity	Contaminant Inventory				SOURCE	Final Susceptibility Ranking[1]			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
2	2	H*	2	2	4	Well Field	H*	L	L	M
1	1	H*	5	4	0	Well #4	H*	L	L	L
3	NA	1	1	1	3*	Rose Spring	L	L	L	H*

[1]H = High Susceptibility, M = Moderate Susceptibility, Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
[2]H* - Indicates source automatically scored as high susceptibility due to presence of a VOC, SOC or an IOC above the maximum contaminant level in the tested drinking water, or the presence of a significant contaminant source within 1000 feet of a surface water intake.

Susceptibility Summary

The Rose Lake Water Association drinking water system is currently exploring options for removal of high levels of iron and manganese in the water of Well #4. Water quality from the well field is generally good. Occasional detections of bacteria in the water seem to be related to distribution system problems. Putting the spring back on line would require installation of expensive filtration equipment and higher long term maintenance costs for the system

Wells in the Rose Lake Water Association system take their water from a shallow, unconfined alluvial aquifer. The spring source is considered groundwater under direct influence of surface water.

Section 4. Options for Source Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require education and surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective source water protection program is tailored to the particular local source water protection area. A community with a fully developed source water protection program will incorporate many strategies. For Rose Lake Water Association, source water protection activities should focus first on maintaining fenced areas immediately around the wells to keep wildlife, livestock and any hazardous materials away from the well. The next priority should be to work with private land owners and public agencies to regulate land use in the 3, 6 and 10-year time of travel zones contributing water to the wells. Public education and source water protection activities such as household hazardous waste collection should also be included in the program. Due to the time involved with the movement of ground water, wellhead protection activities should be aimed at long-term

management strategies even though these strategies may not yield results in the near term.

Source water protection activities related to agriculture should be coordinated with the Idaho Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Consevation Service. The water association is to be commended for source water protection efforts already undertaken around the Doyle Well Field where the association is encouraging natural reforestation by thinning and otherwise managing the growth of seedlings.

For the spring watershed, it may be desirable to work in partnership with the State Department of Lands or the U.S. Forest Service to ensure that logging and road building activity will not degrade Rose Creek.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Coeur d'Alene Regional DEQ Office	(208) 769-1422
State DEQ Office	(208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact John Bokor, Idaho Rural Water Association, at 1-800-962-3257 for assistance with wellhead protection strategies.

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Attachment A

Rose Lake Water Association Susceptibility Analysis Worksheet

The final scores for the susceptibility analysis for Rose Lake Water Association wells were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

> 13 High Susceptibility

The final scores for the susceptibility analysis for the spring were determined from the addition of the Potential Contaminant Source/Land Use Score and Source Construction Score.

Final Susceptibility Scoring:

0 - 7 Low Susceptibility

8 - 15 Moderate Susceptibility

> 16 High Susceptibility

Ground Water Susceptibility

Report

Public Water System Name : **ROSE LAKE WATER ASSN** Source: **WELL FIELD**

Public Water System Number : **1280161** 12/7/00 9:24:50 AM

1. System Construction		SCORE			
Drill Date	2/7/96				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	0			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**2**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**3**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		Score	Score	Score	Score
Land Use Zone 1A	DRYLAND AGRICULTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	YES	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**1**	**1**	**1**	**1**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	YES	0	0	0	1
(Score = # Sources X 2) 8 Points Maximum		0	0	0	2
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	25 to 50% Non-Irrigated Agricultural Land	1	1	1	1
Total Potential Contaminant Source / Land Use Score - Zone 1B		**1**	**1**	**1**	**3**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE III 10 YR. TOT)					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**0**	**0**	**0**
Cumulative Potential Contaminant / Land Use Score		**2**	**2**	**2**	**4**
4. Final Susceptibility Source Score		**5**	**5**	**5**	**7**
5. Final Well Ranking		***High**	**Low**	**Low**	**Moderate**

*** HIGH due to water sampling results.**

Ground Water Susceptibility Report

Public Water System Name : **ROSE LAKE WATER ASSN** Source: **WELL #4**

Public Water System Number : **1280161** 12/6/00 1:54:48 PM

1. System Construction		SCORE			
Drill Date	11/10/97				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	0			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**1**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**3**			
3. Potential Contaminant / Land Use - ZONE 1A (Sanitary Setback)		- Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	YES	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE 1B (3 YR. TOT)					
Contaminant sources present (Number of Sources)	NO	0	0	0	0
(Score = # Sources X 2) 8 Points Maximum		0	0	0	0
Sources of Class II or III leacheable contaminants or Microbials	NO	0	0	0	
4 Points Maximum		0	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		**0**	**0**	**0**	**0**
Potential Contaminant / Land Use - ZONE II (6 YR. TOT)					
Contaminant Sources Present	YES	0	2	2	
Sources of Class II or III leacheable contaminants or Microbials	YES	0	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		**0**	**3**	**3**	**0**
Potential Contaminant / Land Use - ZONE III (10 YR. TOT)					
Contaminant Source Present	YES	0	1	1	
Sources of Class II or III leacheable contaminants or Microbials	YES	0	1	0	
Is there irrigated agricultural lands that occupy > 50% of Zone	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		**0**	**2**	**1**	**0**
Cumulative Potential Contaminant / Land Use Score		**0**	**5**	**4**	**0**
4. Final Susceptibility Source Score		**4**	**5**	**5**	**4**
5. Final Well Ranking		High*	Low	Low	Low

* High due to water sampling results.

Surface Water Susceptibility Report

Public Water System Name : **ROSE LAKE WATER ASSN** Source: **ROSE SPRING**
Public Water System Number : **1280161**
11/1/00 1:02:23 PM

1. System Construction		**Score**
Intake structure properly constructed	NO	1
Infiltration gallery or well under the direct influence of surface water	NO	2
Total System Construction Score		**3**

2. Potential Contaminant Source / Land Use		**IOC Score**	**VOC Score**	**SOC Score**	**Microbial Score**
Predominant land use type (land use or cover)	BASALT FLOW, UNDEVELOPED, OTHER	0	0	0	0
Farm chemical use high	NO	0	0	0	
Significant contaminant sources *	YES	**Microbial**			
Sources of class II or III contaminants or microbials	present within the small stream segment of the	0	0	0	1
Agricultural lands within 500 feet	YES				
	Less than 25% Non-Irrigated Agriculture	0	0	0	0
Three or more contaminant sources	NO	0	0	0	0
Sources of turbidity in the watershed	YES	1	1	1	1
Total Potential Contaminant Source / Land Use Score		**1**	**1**	**1**	**3**
3. Final Susceptibility Source Score		**4**	**4**	**4**	**6**
4. Final Source Ranking		**Low**	**Low**	**Low**	***High**

* Special consideration due to significant contaminant: